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JASIC
INVERTER EXPERT

Cut 160

Air Plasma Cutting machine
Order code JP-160

CE RoHS Compliant

OPERATOR MANUAL

Your new product

Thank you for selecting this Jasic Technology, Wilkinson Star product.

This product manual has been designed to ensure that you get the most from your new product. Please ensure that you are fully conversant with the information provided paying particular attention to the safety precautions. The information will help protect yourself and others against the potential hazards that you may come across.

Please ensure that you carry out daily and periodic maintenance checks to ensure years of reliable and trouble free operation.

Wilkinson Star Limited are a leading supplier of equipment in the UK and our products are supported by our extensive service network. Call your distributor in the unlikely event of a problem occurring. Please record below the details from your product as these will be required for warranty purposes and to ensure you get the correct information should you require assistance or spare parts.

Date purchased _____

From where _____

Serial Number _____

(The serial number will normally be located on the equipment data plate on the underside of the machine or on the rear panel)

Please note products are subject to continual development and may be subject to change without notice

1

Safety Precautions

These general safety norms cover both arc welding machines and plasma cutting machines unless otherwise noted.

The equipment must only be used for the purpose it was designed for. Using it in any other way could result in damage or injury and in breach of the safety rules.

Only suitably trained and competent persons should use the equipment. Operators should respect the safety of other persons.

Prevention against electric shock

The equipment should be installed by a qualified person and in accordance with current standards in operation.It is the users responsibility to ensure that the equipment is connected to a suitable power supply. Consult with your utility supplier if required

If earth grounding of the work piece is required, ground it directly with a separate cable.

Do not use the equipment with the covers removed.

Do not touch live electrical parts or parts which are electrically charged.

Turn off all equipment when not in use.

Cables (both primary supply and welding) should be regularly checked for damage and overheating. Do not use worn, damaged, under sized, or poorly jointed cables.

Ensure that you wear the correct protective clothing, gloves, head and eye protection.

Insulate yourself from work and ground using dry insulating mats or covers big enough to prevent any physical contact with the work ground.

Never touch the electrode if you are in contact with the work ground, or another electrode from a different machine.

Do not wrap cables over your body.

Ensure that you take additional safety precautions when you are welding in electrically hazardous conditions such as damp environments, wearing wet clothing, and metal structures. Try to avoid welding in cramped or restricted positions.

Ensure that the equipment is well maintained. Repair or replace damaged or defective parts immediately. Carry out any regular maintenance in accordance with the manufacturers instructions.

Safety against fumes and welding gases

Locate the equipment in a well-ventilated position.

Keep your head out of the fumes. Do not breathe the fumes.

Ensure the welding zone is in a well-ventilated area. If this is not possible provision should be made for suitable fume extraction.

If ventilation is poor, wear an approved respirator.

Read and understand the Material Safety Data Sheets (MSDS's) and the manufacturer's instructions for metals, consumable, coatings, cleaners, and de-greasers.

Do not weld in locations near any de-greasing, cleaning, or spraying operations. Be aware that heat and rays of the arc can react with vapours to form highly toxic and irritating gases.

Do not weld on coated metals, unless the coating is removed from the weld area, the area is well ventilated, and while wearing an air-supplied respirator. The coatings on many metals can give off toxic fumes if welded.

Prevention against burns and radiation

Arc rays from the welding process produce intense, visible and invisible (ultraviolet and infrared) rays that can burn eyes and skin.

Wear an approved welding helmet fitted with a proper shade of filter lens to protect your face and eyes when welding or watching

Wear approved safety glasses with side shields under your helmet.

Never use broken or faulty welding helmets.

Always ensure there are adequate protective screens or barriers to protect others from flash, glare and sparks from the welding area. Ensure that there are adequate warnings that welding or cutting is taking place.

Wear suitable protective flame resistant clothing.

The sparks and spatter from welding, hot work pieces, and hot equipment can cause fires and burns

Welding on closed containers, such as tanks, drums, or pipes, can cause them to explode.

Accidental contact of electrode to metal objects can cause arcs, explosion, overheating, or fire.

Check and be sure the area is safe and clear of inflammable material before carrying out any welding.

Protection against noise

Some welding and cutting operations may produce noise.

Wear safety ear protection to protect your hearing.

Protection from moving parts

When the machine is in operation keep away from moving parts such as motors and fans. Moving parts, such as the fan, may cut fingers and hands and snag garments.

Protections and coverings may be removed for maintenance and controls only by qualified personnel, after first disconnecting the power supply cable.

Replace the coverings and protections and close all doors when the intervention is finished, and before starting the equipment.

Take care to avoid getting fingers trapped when loading and feeding wire during set up and operation.

When feeding wire be careful to avoid pointing it at other people or toward your body.

Always ensure machine covers and protective devices are in operation.

Precautions against fire and explosion

Avoid causing fires due to sparks and hot waste or molten metal

Ensure that appropriate fire safety devices are available near the cutting / welding area.

Remove all flammable and combustible materials from the cutting / welding zone and surrounding areas

Do not cut/weld fuel and lubricant containers, even if empty. These must be carefully cleaned before they can be cut/ welded.

Always allow the cut/welded material to cool before touching it or placing it in contact with combustible or flammable material.

Do not work in atmospheres with high concentrations of combustible fumes, flammable gases and dust.

Always check the work area half an hour after cutting to make sure that no fires have begun.

Risks due to magnetic fields

The magnetic fields created by high currents may affect the operation of pacemakers or electronically controlled medical equipment.

Wearers of vital electronic equipment should consult their physician before beginning any arc welding, cutting, gouging or spot welding operations.

Do not go near welding equipment with any sensitive electronic equipment as the magnetic fields may cause damage.

RF Declaration

Equipment that complies with directive 2004/108/EC concerning electromagnetic compatibility (EMC) and the technical requirements of EN60974-10 is designed for use in industrial buildings and not those for domestic use where electricity is provided via the low voltage public distribution system. Difficulties may arise in assuring class A electromagnetic compatibility for systems installed in domestic locations due to conducted and radiated emissions.

In the case of electromagnetic problems, it is the responsibility of the user to resolve the situation. It may be necessary to shield the equipment and fit suitable filters on the mains supply.

LF Declaration

Consult the data plate on the equipment for the power supply requirements.

Due to the elevated absorbance of the primary current from the power supply network, high power systems affect the quality of power provided by the network. Consequently, connection restrictions or maximum impedance requirements permitted by the network at the public network connection point must be applied to these systems.

In this case the installer or the user is responsible for ensuring the equipment can be connected, consulting the electricity provider if necessary.

Materials and their disposal

The equipment is manufactured with materials, which do not contain any toxic or poisonous materials dangerous to the operator.

When the equipment is scrapped, it should be dismantled separating components according to the type of materials.

Do not dispose of the equipment with normal waste. The European Directive 2002/96/EC on Waste Electrical and Electronic Equipment states the electrical equipment that has reached its end of life must be collected separately and returned to an environmentally compatible recycling facility.

Handling of Compressed gas cylinders and regulators

All cylinders and pressure regulators used in welding operations should be handled with care.

Never allow the electrode, electrode holder or any other electrically “hot” parts to touch a cylinder.

Keep your head and face away from the cylinder valve outlet when opening the cylinder valve.

Always secure the cylinder safely

Never deface or alter any cylinder

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Product Overview

Features

The machine adopts advanced inverter technology. The high inverter frequency of 20KHz greatly reduces the size and weight of the cutter.

There is a great reduction in magnetic and resistance loss which enhances the cutting efficiency and energy saving effect.

A closed loop feedback control provides a stable output cutting current, even with a mains voltage fluctuation of ±15%.

Non-contact ignition with pilot arc, excellent arc ignition, can cut rusty and painted metals conveniently.

Excellent dynamic characteristics, high arc stiffness, smooth cutting surface, high cutting performance.

Current upslope function is available when arc is ignited to carry out cutting, which can reduce the arc ignition impact. The constant pilot arc technology can effectively prolong the lifespan of the electrode and nozzle of the cutting torch.

The cutting current can be accurately preset and step-less adjustment can be achieved through the preset current function. Thus, the machine can be used to cut workpieces with different thicknesses. Low current is used when cutting thin plate and high current is used when cutting thick plate to ensure cutting quality and save energy.

With protection function of over/under-voltage, overheating and low gas pressure inside the machine; gas-check and 2T/4T function (automated cutting) available; arc established signal and arc voltage output signal optional; making it suitable to connect all kinds of CNC machine tools.

Uses main components from world leading brands, with high reliability.

Application

Economic and practical using compressed air as the plasma gas source. The plasma cutter has a wide range of uses, especially for cutting metal plates of carbon steel, alloy steel, stainless steel, galvanised steel, copper and aluminium, etc.

It can be widely used in various industries involving metal cutting such as boiler and pressure vessel manufacturing, chemical container manufacturing, power plant installation and construction industry, metallurgy, chemical engineering, aerospace, automobile and engineering vehicles manufacturing and construction, etc.

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Technical data

MODEL	CUT 160
Rated input voltage (V)	Three phase 400V AC±15%
Rated input frequency (Hz)	50/60
Rated input capacity (KVA)	29.2
Recommended supply fuse (A)	50
Compressed air requirement	170L/Min. 6Bar
No load voltage	330V DC
Cutting current (A)	30-160
Rated output voltage (V)	144
Rated duty cycle (%)	160A @ 60%
Efficiency (%)	85
Power factor	0.99
Insulation class	F
Protection class	IP21S
Arc ignition	HF
Maximum cutting thickness (mm)	60 (Carbon steel)
Weight (kg)	55
Overall size (mm) (L×W×H) without handle	676*333*712

Tested at the environment temperature of -10^0 - 40^0 C

Product design may vary due to customer requirements.

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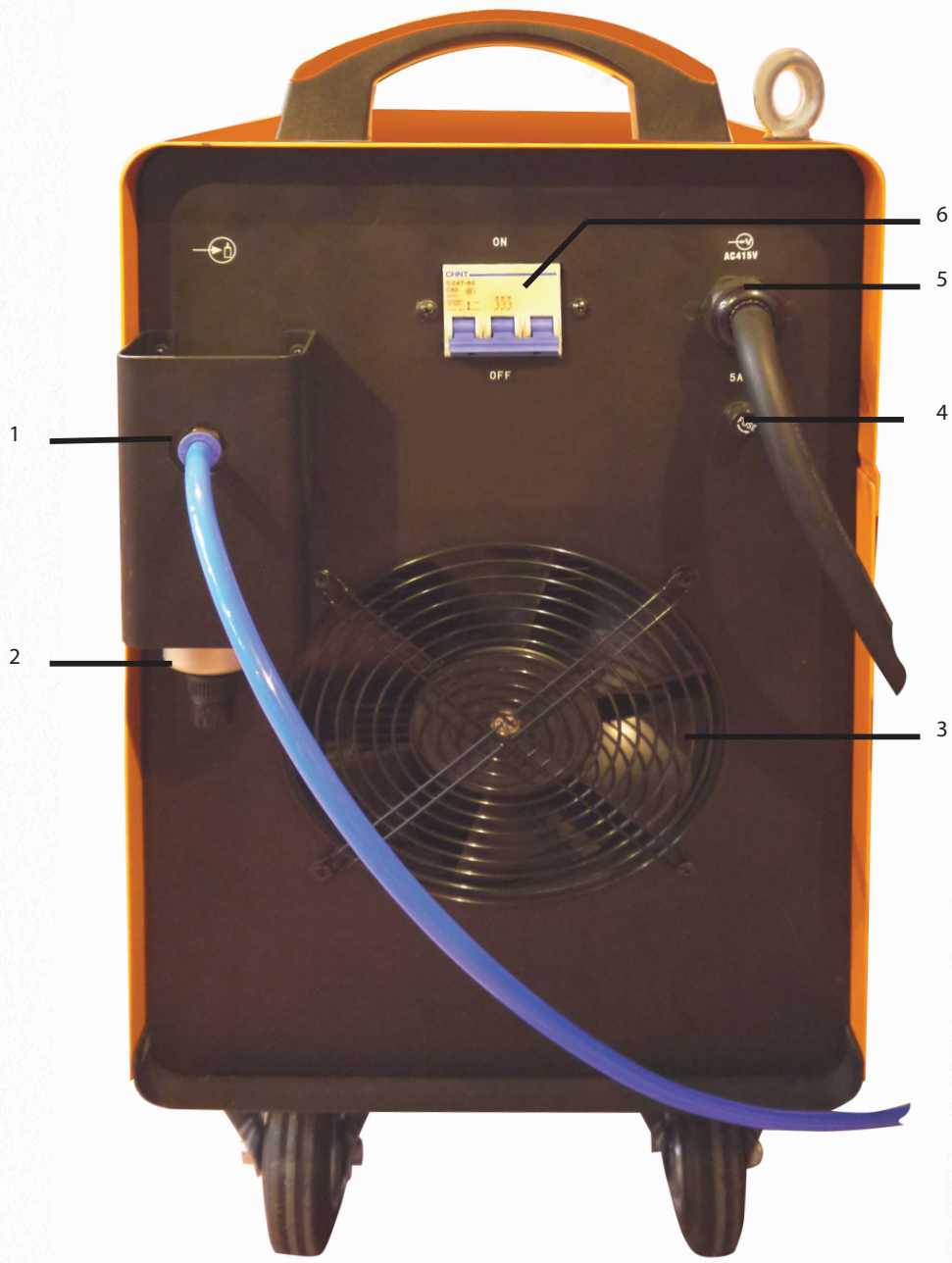
Controls

PANEL LAYOUT

1	DIGITAL METER	6	CUTTING CURRENT ADJUSTER
2	GAS SELECTOR	7	SECONDARY GAS REGULATOR
3	2T/4T (AUTOMATIC OPERATION)	8	AIR PRESSURE GUAGE
4	TORCH CONNECTOR	9	ALARM INDICATORS
5	WORK RETURN SOCKET		



1	AIR INLET	4	FUSE
2	AIR FILTER	5	MAINS INPUT CABLE
3	FAN	6	MAINS ON/OFF SWITCH

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Installation

Unpacking

Check the packaging for any signs of damage.

Carefully remove the machine and retain the packaging until the installation is complete.

Location

The machine should be located in a suitable position and environment. Care should be taken to avoid moisture, dust, steam, oil or corrosive gases

Place on a secure level surface and ensure that there is adequate clearance around the machine (at least 20cm) to ensure natural airflow.

Input connection

Before connecting the machine you should ensure that the correct supply is available. Details of the machine requirements can be found on the data plate of the machine or in the technical parameters shown in the manual.

The equipment should be connected by a suitably qualified competent person. Always ensure the equipment has a proper grounding.

Never connect the machine to the mains supply with the panels removed.

Connection of work cable

Insert the quick plug on the work cable into the quick socket at the bottom of the front panel of the machine, and tighten it clockwise. Clamp the workpiece with the work clamp at the other end of the earth cable.

Connection of cutting torch

Connect the central connection plug on the cutting torch to the central connection socket of the power supply, and tighten It clockwise to avoid gas leakage.

Connection of the air supply

The unit should be connected to a suitable, clean and dry air supply. If there is oil or water in the air a suitable three stage filter should be connected.

If the quality of air is poor, the cutting speed will decrease, the cutting quality will lower, the cutting thickness will reduce, and the service life of wearing parts will be shortened. In order to obtain the optimal performance, the maximum particle size of air should be 0.1μm, the maximum concentration of air should be 0.1mg/m3, the maximum dew point of air should be -40°C, the maximum oil concentration should be 0.1mg/m3.

The air supply pressure should not exceed 8 bar and normal cutting pressure will be around 6 bar.

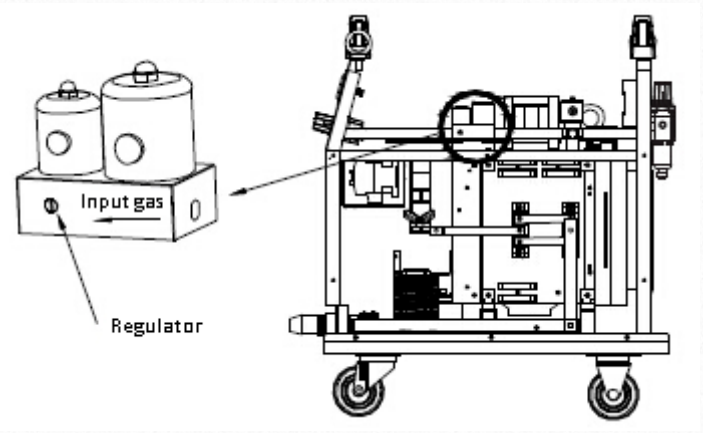
Adjustment of the pilot arc gas

The pilot arc gas of CUT160 (L307) is appropriately set when leaving factory, and it is unnecessary for users to adjust it any more. If the operator wants to adjust the pilot arc gas according to their own preference, the following procedure should be observed.

1 Disconnect the mains supply

2 Remove the upper cover and adjust the regulator marked in the figure below to set the pilot arc gas pressure.

If the working gas pressure reaches 6~7 times the atmospheric pressure, the working gas pressure will be normal. However, if the pilot arc is unstable and appears green, it indicates that the pilot arc gas pressure is overly low, which will cause damage of the wearing parts of the cutting torch. In this condition, adjust the regulator with a slotted screwdriver until the pilot arc appears normal. If the pilot arc snaps and is unstable, it indicates that the pilot arc gas pressure is overly high. In this condition, adjust the regulator counterclockwise with a slotted screwdriver until the pilot arc appears normal.



Installation of the cutting torch

1) Screw the end of the electrode with screw thread into the torch head, and tighten it.

2) Insert the other end of the electrode into the distributor.

3) Connect the nozzle with the electrode and distributor.

4) Connect the protective sleeve with the nozzle, screw it into the torch head, and tighten it.

Note: Screw the electrode into the torch with an inner hexagon spanner, and tighten it. Otherwise, the inner thread of the electrode will be burned.

Introduction of the cutting torch

The plasma cutter CUT160 (L307) uses the Starparts P150 plasma cutting torch for its standard configuration.

The frequency of replacing the wearing parts of the cutting torch depends on the aspects below:

The thickness of the metal to be cut.

The average cutting length.

Whether it is used for automatic cutting or it is used for handheld cutting.

Air quality (whether there is oil, water or other contaminants)

Whether it is used to punch on the metal or it is used to cut from the metal edge.

Whether the distance between the cutting torch and the workpiece is appropriate when cutting with wearing parts without protective sleeves.

Whether the cutting height is appropriate.

The quality of the wearing parts used.

Under normal circumstances, the nozzle will wear out first in hand-held cutting.

The general rule is: The wearing parts will expire after the practical “arc discharge” time reaches 1~2 hours when it is used for handheld cutting. The specific time depends on the above factors. The wearing parts will expire after the practical “arc discharge” time reaches 3~5 hours when it is used for automatic cutting. Selecting wearing parts

A complete set of wearing parts for cutting are attached to the cutting torch P150, including the wearing parts installed on the cutting torch and the spare electrodes and nozzles contained in the wearing parts package.

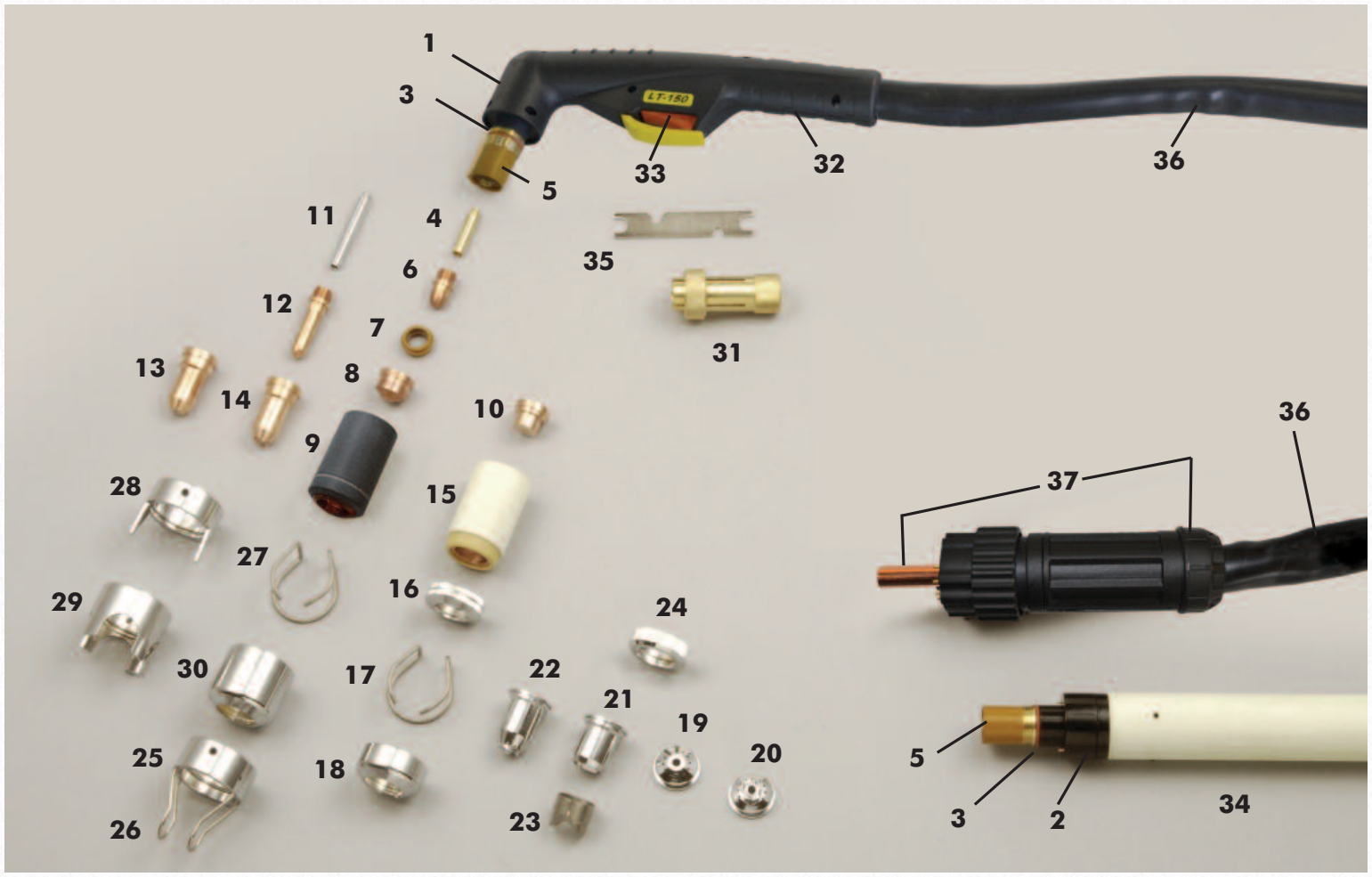
Standard wearing parts for cutting torch P150 are recommended in order to obtain optimal cutting quality.

WARNING: Plasma arc may cause burns or scalds during the instantaneous start of cutting torch.

The Plasma arc will be produced at the moment after the cutting torch is started, so make sure that the power is cut

P150LT COMPATIBLE CEBORA

Gas: Single • Air Flow: 220 Litres Per Min • Rating: 150 Amp @ 60% Duty Cycle • Cutting Capacity: 35mm Most Materials



TORCH PACKAGES

Item No	Description
C1576LT	Hand Torch 6mt Central Fitting
C1578LT	Hand Torch 12mt Central Fitting
C1577	Machine Torch 6mt Central Fitting
C1579	Machine Torch 12mt Central Fitting

MAIN CONSUMABLES

Item No	Part No	Description	Pack Qty
1	02001	Torch Head	1
2	C1354	Torch Head - Macine Torch	1
3	C3160067	'O' Ring - Torch Head	10
4	C1378	Diffuser	1
5	C1017	Front Insulator - Vespel	1
6	C1376	Electrode Hafnium	5
7	C1377	Swirl Ring Vespel	1
8	C1371	Cutting Tip 1.1	10
	C1372	Cutting Tip 1.35	10
	C1373	Cutting Tip 1.6	10
	C1374	Cutting Tip 1.8	10
	C1375	Gouging Tip 3.0	10
9	C1389	Nozzle Retaining Cap	1
10	C1390	Contact Cutting Tip 1.35	10
	C1391	Contact Cutting Tip 1.6	10
	C1392	Contact Cutting Tip 1.8	10
11	C1018	Extended Diffuser	1
12	C1517	Extended Electrode	5
13	C1369	Extended Contact Cutting Tip- 50 Amp	5
14	C1001	Extended Tip 1.35 - 90 Amp	5
	C1002	Extended Tip 1.6 - 120 Amp	5
	C1003	Extended Tip 1.8 - 150 Amp	5
15	C1393	Contact Nozzle Retaining Cap	1
	C1006	Contact Nozzle Ret cap - Long Life	1

MAIN CONSUMABLES

Item No	Part No	Description	Pack Qty
16	C1007	Spring Holder Protection Nut	1
17	C1008	Spacer Springs for C1007	5
18	C1009	Gouging Spacer	1
19	C1010	Spacer for Contact Cutting - Hand Use with items 8, 15 & 24	1
	C1011	Spacer for Contact Cutting - Hand Use with items 10, 15 & 24	1
	C1394	Spacer for Contact Cutting - Hand Use with items 10, 15 & 24	1
20	C1012	Spacer - Machine Use with items 8, 15 & 24	1
	C1013	Spacer - Machine Use with items 10, 15 & 24	1
21	C1014	Shield Cup - Hand Max 50 Amp	1
22	C1015	Spacer for Contact Cutting - Hand	1
23	C1020	Spacer for Extended Tips High Amp	1
24	C1016	Locking Nut	1
25	C1004	Spacer c/w Springs	1
26	C1005	Spacer Springs	5
27	C1386	Stand Off Spring	5
28	C1408	Double Pointed Spacer	1
29	C1409	Crown Spacer	1
30	C1406	Gouging Spacer	1
31	C1509	Extractor for Swirl Ring	1

SECONDARY CONSUMABLES

32	09706	Handle c/w Micro Switch - Hand Torch	1
33	07301.20	Switch	1
34	C3055623	Handle Machine Torch	1
35	C3045012	Wrench for Electrode	1
36	C970	6mt Cable Assy Hand Torch	1
	C980	12mt Cable Assy Hand Torch	1
	C04320	6mt Cable Assy Machine Torch	1
	C04330	12mt Cable Assy Machine Torch	1
37	C534-JP	Central Connector	1

STARPARTS

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Operation

Before starting any cutting activity ensure that you have suitable eye protection and protective clothing. Also take the necessary steps to protect any persons within the area.

Check that all connections have been made as shown above

Check the following before starting the machine.

1) Check if the machine is reliably grounded according to the relevant standard.

2) Check that there are no bad contacts.

3) Check if the power cord is connected to the correct input voltage.

4) Check if the connecting cables and gas hoses are in good condition and are not twisted.

Operation

1) Turn on the power switch on the back panel of the machine, and the power LED is on.

2) Select the working mode and function.

3) Set cutting current according to the thickness of workpiece.

4) Bring the copper nozzle of the cutting torch at a distance of about 2mm between the copper nozzle of the torch and the workpiece.), and then push the torch trigger. After the arc is ignited and cutting starts.

5) It is recommended that a torch of maximum length of 6 metres is used. If the torch cable is too long, the performance of this cutting machine such as arc ignition will possibly be affected due to the fact that the inner resistance of the cable will reduce the output voltage.

Notes for cutting operation

1) Do not touch the hot workpiece with bare hands to avoid burning.

2) It is recommended not to ignite the arc in the air if not necessary, for it will shorten the lifespan of the electrode and nozzle of the torch.

3) It is recommended to initiate the cutting from the edge of workpiece, unless penetration is needed.

4) Ensure spatter comes from the bottom of workpiece while cutting. If spatter comes upward from the top of workpiece, it indicates that the workpiece has not been fully cut through. This could be due to not enough power or the cutting torch is moved too fast.

5) For cutting a round workpiece or to meet precise cutting requirement, a stencil board or other tools are needed.

7) It is recommended to pull the cutting torch while cutting.

8) Keep the nozzle of cutting torch upright over the workpiece, and check if the arc is moving with the cutting line. Do not bend the cable too much, step on or press upon the cable to avoid restricting the air flow. The cutting torch may be burned if the air flow is too low. Keep the cutting cable away from sharp edges.

9) When the workpiece is nearly cut off, slow down the cutting speed and release the torch trigger to stop cutting.

10) Maintain the torch consumables frequently to prolong the life

11) Always ensure the correct consumables are fitted in the torch. Incorrect items may cause damage to the torch or machine

Cutting parameters table

Cutting capability (thickness of the mild steel)	
Quality cutting thickness (machine-use automatic cutting)	30mm
Quality cutting thickness (handheld cutting)	40mm
Maximum cutting thickness (handheld cutting)	60mm

Cutting mild steel with air plasma cutter						
Plate thickness (mm)	Orifice diameter of contact tip (mm)	Cutting current (A)	Distance between the cutting torch and workpiece (mm)	Gas flow (L/min)	Working gas pressure (Bar)	Recommended cutting speed (mm/min)
10	Φ1.6	160	3mm	150	5	690
20	Φ1.6	160	3mm	150	5	440
30	Φ1.8	160	5mm	150	5	330
40	Φ1.8	160	5mm	150	5	150
50	Φ1.8	160	7mm	150	5	100
60	Φ1.8	160	7mm	150	5	80
Cutting stainless steel with air plasma cutter						
Plate thickness (mm)	Orifice diameter of contact tip (mm)	Cutting current (A)	Distance between the cutting torch and workpiece (mm)	Gas flow (L/min)	Working gas pressure (Bar)	Recommended cutting speed (mm/min)
40	Φ1.8	160	5mm	150	5	210
Cutting aluminium and aluminium alloy with air plasma cutter						
20	Φ1.6	160	3mm	150	5	560

For welder training please visit our Academy website at

www.wilkinson-welding-academy.com

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Maintenance and troubleshooting

The following operation requires sufficient professional knowledge on electric aspects and comprehensive safety knowledge. Make sure the input cable of the machine is disconnected from the electricity supply and wait for 5 minutes before removing the machine covers.

In order to guarantee that the arc welding machine works efficiently and in safety, it must be maintained regularly. Operators should understand the maintenance methods and means of arc welding machine operation. This guide should enable customers to carry on simple examination and safeguarding by oneself, try to reduce the fault rate and repair times of the arc welding machine, so as to lengthen service life of arc welding machine

Period	Maintenance item
Daily examination	Carry out a full visual inspection. Check for any damage to the machine, leads, cables and connections. Replace where necessary. Switch on the machine and check for any warning Led's and general operation
Monthly examination	Using the dry compressed air to clean the inside of arc welding machine. Especially check for build up of dust / debris on intake grills, main voltage transformer, inductance, IGBT modules, the fast recover diode and PCB, etc. Take care when blowing electronic components and do not dislodge any wiring connections Check the security of output connections and plugs. Replace if signs of overheating.
Yearly examination	Carry out an annual service. Check earth continuity and insulation resistance of the machine at the relevant points. PLEASE NOTE THIS WORK SHOULD BE CARRIED OUT BY A TRAINED COMPETENT PERSON.

Troubleshooting

Before arc cutting machines are dispatched from the factory, they have already been checked thoroughly. The machine should not be tampered with or altered.

Maintenance must be carried out carefully. If any wire becomes loose or is misplaced, it maybe potential danger to user!

Only professional maintenance personnel should repair the machine!

Ensure the power is disconnected before working on the machine. Always wait 5 minutes after power switch off before opening the case.

Malfunction	Cause and solution
Turn the power switch (ON/OFF) to "1" position, but the machine cannot be started.	Check and make sure that the power cable is connected to the power supply. Check and make sure that the power of the main power PCB or circuit cut-off switch box is switched on. Check and make sure that the circuit voltage is neither too high nor too low (the voltage for normal working is 380V±15%). Check and make sure that the machine is not under protection status.
The abnormal indicator illuminates with yellow.	Check and make sure that the input voltage is within the normal range. Check and make sure that the machine is not under overheating protection. Check and make sure that the machine is not under overcurrent protection.

Malfunction	Cause and solution
The gas lack indicator illuminates with yellow.	Check and make sure that the gas supply circuit is connected to the power supply, and that the gas supply circuit is powered on. Check if there is gas leakage in the gas supply circuit, and test the pressure of the input gas.
Arc cannot be transferred onto the workpiece.	Clean the contact part of the work clamp and the workpiece to ensure good metal-metal contact. Check if the work clamp is damaged, and repair it if necessary. The distance between the cutting torch and workpiece is too big. Move the cutting torch closer to the workpiece, and try again.
Arc goes out, but it is ignited again after pressing down the cutting torch trigger for another time.	Check if the wearing parts are worn or damaged, and replace them if necessary. Check if the gas filter element is polluted, and replace it if necessary.
Arc cracks and hisses.	Check if the gas filter element is polluted, and replace it if necessary. Check if there is water in the gas circuit, and install or repair the gas filter connected to the power supply if necessary.
The cutting quality is poor.	Check and make sure that the cutting torch is operated correctly. Check if the wearing parts are worn or damaged, and replace them if necessary.

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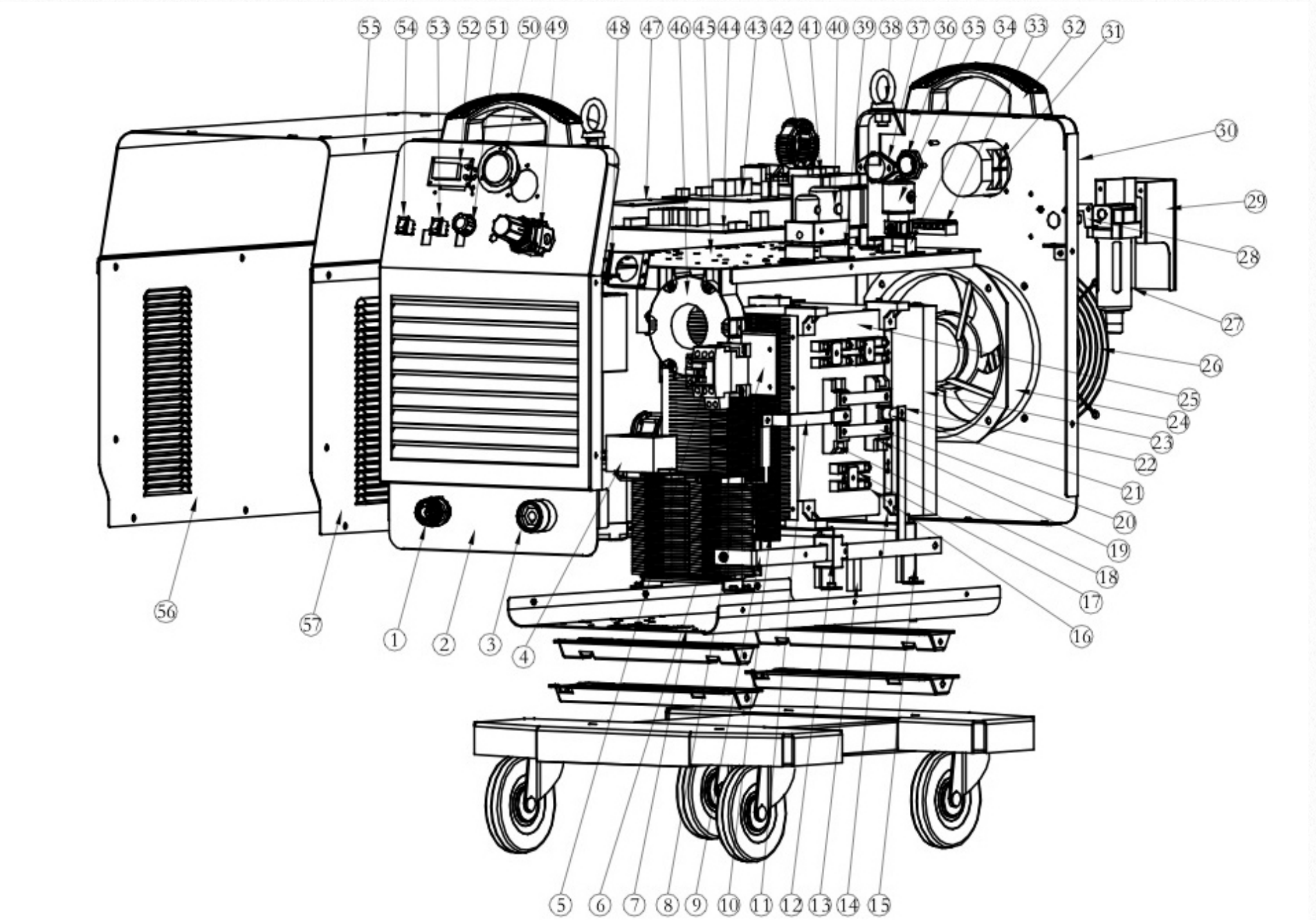
Parts

Position	Part Number	Description	Position	Part Number	Description
1	10004622	Torch connector	29	10050741	Filter protection cover
2	10050737	Front panel	30	10050738	Rear panel
3	10034377	Quick connector	31	10004935	Switch
4	10028232	RC module	32	10046896	Handle
5	10006523	Contactor	33	10004960	Connector
6	10039598	Contactor bracket	34	10039599	Bracket
7	10047520	Base panel	35	10046586	Pressure switch
8	10046462	Reactor	36	10004890	Cable clip
9	10047523	Output fittings	37	10047382	Cable clip bracket
10	10005326	Resistor	38	10023065	Ring M12 x 22
11	10047524	Fitting	39	10047526	Valve bracket
12	10046591	Hall device	40	10046227	Valve
13	10015578	Column	41	10044738	Transformer
14	10016565	Heat sink bracket	42	10020618	EMC board
15	10016592	Heat sink bracket	43	10000778	Power driver board
16	10046605	RC assembly	44	10046423	Program control board
17	10039597	Resistor	45	10047521	Central baffle
18	10028348	Fast recovery diode	46	10001074	Transformer
19	10038347	Fast recovery diode	47	10044293	Hand switch isolation plate
20	10015985	Connector	48	10047527	Regulator bracket
21	10042779	Cylinder	49	10047275	Relief valve
22	10047522	Diode connector	50	10007295	Gauge
23	10044790	Deflector	51	10004918	Knob
24	10036646	Fan	52	10046712	Display
25	10047560	Diode heatsink	53	10004944	Switch
26	10007335	Grill	54	10026117	Switch
27	10007294	Filter	55	10047371	Top cover
28	10050735	Filter bracket	56	10047377	Left cover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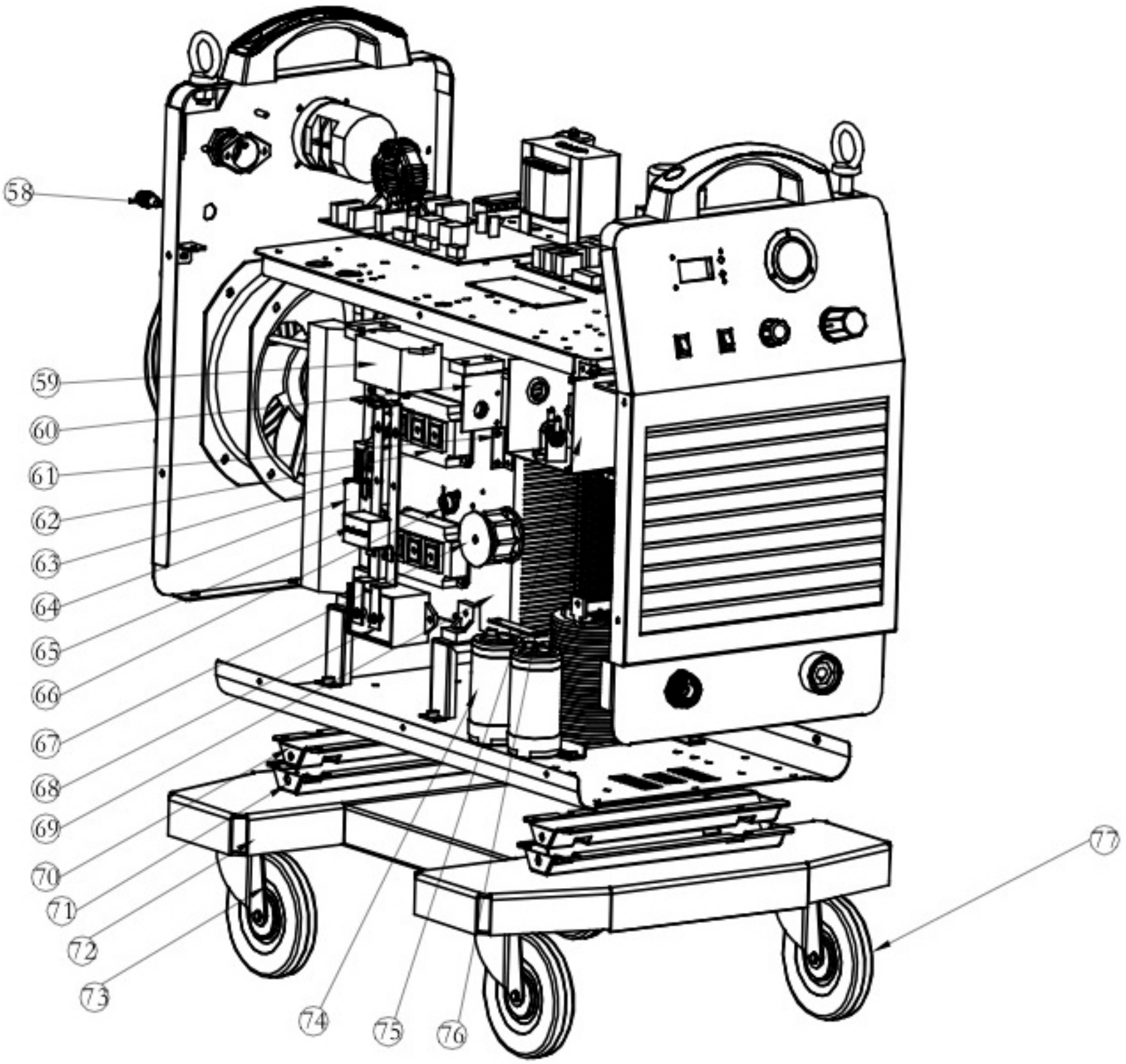
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Position	Part Number	Description	Position	Part Number	Description
57	10047376	Right cover	68	10035396	IGBT connector
58	10045291	Fuse holder	69	10047561	IGBT heatsink
59	10005913	Non inductive capacitor	70	10053633	Holder 1
60	10046425	Current sampling board	71	10053637	Holder 2
61	10016634	Bracket	72	10053634	Support plate
62	10007233	IGBT module	73	10053217	Wheel
63	10006623	3 phase rectifier	74	10005825	Capacitor
64	10046609	Capacitor	75	10047459	Protection cover
65	10005912	Non inductive capacitor	76	10047525	Capacitor connector
66	10006445	Thermal switch	77	10016534	Swivel wheel
67	10006603	DC filter inductance			

CUT 160 AIR PLASMA CUTTING MACHINE
Order code JP-160

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Product is subject to change without notice